

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD

PROPOSED REGULATION REVISION D97
CONCERNING

SPECIAL PROVISIONS FOR EXISTING SOURCES,
NEW AND MODIFIED SOURCES, AND
HAZARDOUS AIR POLLUTANT SOURCES
(9 VAC 5 CHAPTERS 40, 50 and 60)

ACTION TITLE (PRIMARY)

Special Provisions: Existing Sources, 9 VAC 5 Chapter 40, Part I

ACTION TITLE (SECONDARY)

General Definitions (9 VAC 5 Chapter 10)
Facility and control equipment maintenance or malfunction (9 VAC 5-20-180)
Special Provisions: New and Modified Sources, 9 VAC 5 Chapter 50, Part I
Special Provisions: Hazardous Air Pollutant Sources, 9 VAC 5 Chapter 60, Part I

SUMMARY

The regulation amendments are summarized below:

Special provisions are contained in several locations throughout the Board's regulations as follows: Existing Sources, Chapter, 40 Part I; New and Modified Sources, Chapter 50, Part I; and Hazardous Air Pollutant Sources, Chapter 60, Part I. The special provisions address such issues such as: applicability, compliance, emission testing, monitoring, notification, records and reporting. Amendments are being proposed to update certain requirements in the provisions to be consistent with new federal requirements and EPA policy and to address concerns identified pursuant to the review of existing regulations mandated by Executive Order 15(94) as well as changes made to federal regulations since that review.

STATEMENT OF PURPOSE, SUBSTANCE, ISSUES, BASIS AND IMPACT

- A. Purpose - The purpose of the regulation is ensure compliance with emissions standards and other requirements by stationary sources in order to protect public health and welfare by establishing the protocols and provisions which address applicability, compliance, emission testing, monitoring, and record keeping and reporting for existing sources, new and modified sources and sources of hazardous air pollutants. The proposed amendments are being made to update certain requirements in the provisions cited above to be consistent with federal requirements and other changes identified pursuant

to the review of existing regulations mandated by Executive Order 15(94).

B. Substance - The major provisions of the proposal are summarized below. The changes are accompanied with citations to the appropriate sections of the regulation.

1. The term "malfunction" has been changed to clarify that failure of air pollution control equipment caused by poor maintenance or careless operation will not be considered a "malfunction". [9 VAC 5-10-20]
2. The term "reference method" has been modified to include a reference to Appendix M of the Code of Federal Regulations. This appendix includes new test methods approved by EPA for inclusion into the state implementation plan. [9 VAC 5-10-20]
3. The term "volatile organic compound" has been modified to conform to the EPA definition with regard to substances exempted from being identified as a volatile organic compound (VOC). [9 VAC 5-10-20]
4. Changes have been made to some other definitions to make them consistent with recent amendments to other regulations of the Board. [9 VAC 5-10-20]
5. Provisions have been changed to be consistent with recommendations made pursuant to the review of existing regulations mandated by Executive Order 15(94). [9 VAC 5-20-180 B,C,D,G]
6. Provisions pertaining to malfunctions for hazardous air pollution sources have been revised because they are not consistent with requirements pertaining to sources which meet federal NESHAPS and MACT standards for hazardous air pollutants. [9 VAC 5-20-180 F]
7. Provisions for compliance have been changed to allow the use of alternative equivalent methods to determine compliance with federal requirements only when approved by the Administrator of EPA. [9 VAC 5-40-20 A 2]
8. Provisions governing compliance with opacity standards have been changed to require the following:
 - a. opacity observations shall be conducted concurrently with the initial emission test following certain criteria and conditions, [9 VAC 5-40-20 A 3, G 1]
 - b. opacity observations shall be reported to the board, [9 VAC 5-40-20 G 2]
 - c. a continuous opacity monitor may be used provided specific protocols are followed, and [9 VAC 5-40-20 G 4,5]
 - d. a waiver may be granted by the Board to a source that fails to meet any applicable opacity standard provided that specific conditions are met. [9 VAC 5-40-20 G 6,7,8]
9. Provisions have been added to allow the use of any credible evidence or information for

determining compliance certifications or violations. [9 VAC 5-40-20 J]

10. Provisions have been added specifying that appropriate reference test methods shall be used for emission testing unless the board, in advance, deems otherwise using criteria specified in the regulation. [9 VAC 5-40-30 A]
11. Provisions have been added specifying excess emissions during periods of start-up, shutdown or malfunction shall not be considered a violation during emission testing unless otherwise specified in the applicable standard. [9 VAC 5-40-30 C]
12. Provisions have been added requiring that sampling ports shall be adequate for applicable test methods. [9 VAC 5-40-30 F 1]
13. Provisions have been added that require continuous monitoring systems meet the performance specifications specified in 40 CFR Part 60. [9 VAC 5-40-40 A]
14. Provisions have been added that require continuous opacity monitoring systems to be subject to a performance evaluation and conform to EPA performance specifications. [9 VAC 5-40-40 D]
15. Provisions have been modified to require that the Board have no less than 30 day notification for opacity compliance observations. [9 VAC 5-40-50 A 3,4]
16. Provisions have been added that require semiannually reporting for owners that install a continuous monitoring system unless more frequent reporting is required by a specific emission standard, or the Board determines that more frequent reporting is required. [9 VAC 5-40-50 C]
17. Provisions have been added providing that certain general provisions of 40 CFR Part 60 are to be implemented under the authority of this part. [9 VAC 5-50-10 E]
18. Provisions for compliance have been changed to allow the use of alternative equivalent methods to determine compliance with federal requirements only when approved by the Administrator of EPA. [9 VAC 5-50-20 A 2]
19. Provisions governing compliance with opacity standards have been changed to require the following:
 - a. opacity observations shall be conducted concurrently with the initial emission test following certain criteria and conditions, [9 VAC 5-50-20 A 3,G 1]
 - b. opacity observations shall be reported to the board, [9 VAC 5-50-20 G 2]
 - c. a continuous opacity monitor may be used provided specific protocols are followed, and [9 VAC 5-50-20 G 4,5]
 - d. a waiver may be granted by the Board to a source that fails to meet any applicable

opacity standard provided that specific conditions are met. [9 VAC 5-50-20 G 6,7,8]

20. Provisions have been added to allow the use of any credible evidence or information for determining compliance certifications or violations. [9 VAC 5-50-20 I]
21. Provisions have been added specifying that appropriate reference test methods shall be used for performance testing unless the board, in advance, deems otherwise using criteria specified in the regulation. [9 VAC 5-50-30 A]
22. Provisions have been added specifying excess emissions during periods of start-up, shutdown or malfunction shall not be considered a violation during emission testing unless otherwise specified in the applicable standard. [9 VAC 5-50-30 C]
23. Provisions have been added requiring that sampling ports shall be adequate for applicable test methods. [9 VAC 5-50-30 F 1]
24. Provisions have been added that require continuous monitoring systems meet the performance specifications specified in 40 CFR Part 60. [9 VAC 5-50-40 A]
25. Provisions have been added that require continuous opacity monitoring systems to be subject to a performance evaluation and conform to EPA performance specifications. [9 VAC 5-50-40 D]
26. Provisions have been modified to require that the Board have no less than 30 day notification for opacity compliance observations. [9 VAC 5-50-50 A 6,7]
27. Provisions have been added that require semiannually reporting for owners that install a continuous monitoring system unless more frequent reporting is required by a specific emission standard, or the Board determines that more frequent reporting is required. [9 VAC 5-50-50 C]
28. Provisions have been added providing that certain general provisions of 40 CFR Part 61 and 40 CFR Part 63 are to be implemented under the authority of this part. [9 VAC 5-60-10 B,C]
29. Provisions for compliance have been changed to allow the use of alternative equivalent methods to determine compliance with federal requirements only when approved by the Administrator of EPA. [9 VAC 5-60-20 A 2]
30. Provisions have been added to allow the use of any credible evidence or information for determining compliance certifications or violations. [9 VAC 5-60-20 E]
31. Provisions have been added specifying that appropriate reference test methods shall be used for emission testing unless the board, in advance, deems otherwise using criteria specified in the regulation. [9 VAC 5-60-30 A]
32. Provisions have been added specifying excess emissions during periods of start-up, shutdown or malfunction shall not be considered a violation during emission testing unless otherwise

specified in the applicable standard. [9 VAC 5-60-30 C]

33. Provisions have been added requiring that sampling ports shall be adequate for applicable test methods. [9 VAC 5-60-30 E 1]
- C. Issues - The primary advantages and disadvantages of implementation and compliance with the regulation by the public and the Department are discussed below.
1. Public: The primary advantage to the general public, including affected sources, is that public health and/or welfare will be protected with the least possible cost and intrusiveness to the citizens and businesses of the Commonwealth. In addition, the sources will have clearly specified test methods and procedures for determining compliance with the emissions standards. There are no disadvantages.
 2. Department: The advantages for the Department are three-fold. First, the regulation will provide a clear enforcement basis for determining compliance with the emission standards and other applicable requirements. Second, the regulation provides procedures for continuous or process parameter monitoring of emissions for determining compliance with the emission standards, and third, the use of stack height of the facility or any other dispersion technique as a method to avoid compliance with emission limits has been prohibited. There are no disadvantages to the department.
- D. Basis - The legal basis for the proposed regulation amendments is the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia), specifically § 10.1-1308 which authorizes the Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare.
- E. Economic Impact Analysis - The Department of Planning and Budget prepared an economic impact analysis for the proposal as required by § 9-6.14:7.1 G of the Administrative Process Act. The Department of Environmental Quality takes no issue with the economic impact analysis prepared by the Department of Planning and Budget.

REGULATORY ANALYSIS INFORMATION

STATEMENT OF LEGAL REQUIREMENTS

The identification of (i) the source(s) of the federal legal requirements to promulgate the contemplated regulation, (ii) the scope of the requirements provided, and (iii) the extent to which the authorized rulemaking is mandatory or discretionary may be found below. A copy of all cited legal provisions is attached or may be found at the internet sites listed below.

Federal Clean Air Act (CAA):

<http://www.epa.gov/ttn/oarpg/gener.html>

Code of Federal Regulations (CFR):

<http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html>

Federal Register (FR):

http://www.gpo.gov/su_docs/aces/aces140.html

Chapter 20 (General Provisions) and Chapter 40 (Existing Sources)

Section 110(a) of the Clean Air Act (CAA) mandates that each state adopt and submit to EPA a plan which provides for the implementation, maintenance, and enforcement of each primary and secondary air quality standard within each air quality control region in the state. The state implementation plan shall be adopted only after reasonable public notice is given and public hearings are held. The plan shall include provisions to accomplish, among other tasks, the following:

- (1) establish enforceable emission limitations and other control measures as necessary to comply with the provisions of the CAA, including economic incentives such as fees, marketable permits, and auctions of emissions rights;
- (2) establish schedules for compliance;
- (3) establish a program for the enforcement of the emission limitations and schedules for compliance; and
- (4) require sources of air pollution to install, maintain, and replace monitoring equipment as necessary and to report periodically on emissions-related data.

Section 123 of the Clean Air Act establishes the criteria for determining the stack height for stationary sources of air pollution in existence before the date of enactment of the Clean Air Act Amendments of 1970. Specifically the section requires that "the degree of emission limitation required of any source for control of any air pollutant under an applicable implementation plan...must not be affected in any manner by-

- (1) so much of any source's stack height that exceeds good engineering practice (as determined under regulations promulgated by the Administrator), or
- (2) any other dispersion technique."

For purposes of this section the term "dispersion technique" includes any intermittent or supplemental control of air pollutants varying with atmospheric conditions. Good engineering practice means, with respect to stack height, the height necessary to insure that emissions from the stack do not result in excessive concentrations of any pollutant in the immediate vicinity of the source as a result of atmospheric downwash, eddies and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles.

40 CFR Part 51 sets out requirements for the preparation, adoption, and submittal of state implementation plans. These requirements mandate that any such plan shall include several provisions, as summarized below.

Subpart F (Procedural Requirements) specifies definitions of key terms, stipulations and format for plan submission, requirements for public hearings, and conditions for plan revisions and federal approval.

Subpart G (Control Strategy) specifies the description of emissions reductions estimates sufficient to attain and

maintain the standards, the description of control measures and schedules for implementation, time periods for demonstrations of the control strategy's adequacy, an emissions inventory, an air quality data summary, data availability, special requirements for lead emissions, and intermittent control systems.

Section 51.118 of Subpart G sets out stack height requirements. Section 51.118 requires that the plan submitted by the state must provide that "the degree of emission limitation required of any source for control of any air pollutant must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique." Facilities with stacks in existence after December 31, 1970 must follow good engineering practice.

Subpart K (Source Surveillance) specifies procedures for emissions reports and record-keeping, procedures for testing, inspection, enforcement, and complaints, transportation control measures, and procedures for continuous emissions monitoring.

Subpart L (Legal Authority) specifies the requirements for legal authority to implement plans and assignment of legal authority to local agencies.

Section 51.230 of Subpart L specifies that each state implementation plan must show that the state has the legal authority to carry out the plan, including the authority to perform the following actions:

- (1) adopt emission standards and limitations and any other measures necessary for the attainment and maintenance of the national ambient air quality standards;
- (2) enforce applicable laws, regulations, and standards, and seek injunctive relief;
- (3) obtain information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, including authority to require recordkeeping and to make inspections and conduct tests of air pollution sources;
- (4) require owners or operators of stationary sources to install, maintain, and use emission monitoring devices and to make periodic reports to the state on the nature and amounts of emissions from such stationary sources; and
- (5) make emissions data available to the public as reported and as correlated with any applicable emission standards or limitations.

Section 51.231 of Subpart L requires the identification of legal authority as follows:

- (1) the provisions of law or regulation which the state determines provide the authorities required under § 51.231 must be specifically identified, and copies of such laws or regulations must be submitted with the plan; and
- (2) the plan must show that the legal authorities specified in Subpart L are available to the state at the time of submission of the plan.

Subpart N (Compliance Schedules) specifies legally enforceable compliance schedules, final compliance

schedule dates, and conditions for extensions beyond one year.

Appendix M (Recommended Test Methods for State Implementation Plans) provides recommended test methods for measuring air pollutants which a state may choose to meet the requirements of Subpart K. The state may also choose to meet the requirements of Subpart K through any of the relevant methods in Appendix A to 40 CFR Part 60 or any other method that could be approved and adopted into the state implementation plan.

Appendix P (Minimum Emission Monitoring Requirements) specifies the minimum requirements for continuous emission monitoring and recording.

Chapter 50 (New and Modified Sources)

Section 110(a) of the Clean Air Act (CAA) mandates that each state adopt and submit to EPA a plan which provides for the implementation, maintenance, and enforcement of each primary and secondary air quality standard within each air quality control region in the state. The state implementation plan shall be adopted only after reasonable public notice is given and public hearings are held. The plan shall include provisions to accomplish, among other tasks, the following:

- (1) establish enforceable emission limitations and other control measures as necessary to comply with the provisions of the CAA, including economic incentives such as fees, marketable permits, and auctions of emissions rights;
- (2) establish schedules for compliance;
- (3) establish a program for the enforcement of the emission limitations and schedules for compliance; and
- (4) require sources of air pollution to install, maintain, and replace monitoring equipment as necessary and to report periodically on emissions-related data.

Section 110(j) specifies that, as a condition for issuance of any permit required under this title, the owner or operator of each new or modified stationary source which is required to obtain such a permit must show to the satisfaction of the permitting authority that the technological system of continuous emission reduction which is proposed will enable the source to comply with the standards of performance which are to apply to the source and that the construction or modification and operation of the source will be in compliance with all other requirements of the CAA.

Section 123 of the Clean Air Act establishes the criteria for determining the stack height for stationary sources of air pollution in existence before the date of enactment of the Clean Air Act Amendments of 1970. Specifically the section requires that "the degree of emission limitation required of any source for control of any air pollutant under an applicable implementation plan...must not be affected in any manner by-

- (1) so much of any source's stack height that exceeds good engineering practice (as determined under regulations promulgated by the Administrator), or
- (2) any other dispersion technique."

For purposes of this section the term "dispersion technique" includes any intermittent or supplemental control of air pollutants varying with atmospheric conditions. Good engineering practice means, with respect to stack height, the height necessary to insure that emissions from the stack do not result in excessive concentrations of any pollutant in the immediate vicinity of the source as a result of atmospheric downwash, eddies and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles.

40 CFR Part 51 sets out requirements for the preparation, adoption, and submittal of state implementation plans. These requirements mandate that any such plan shall include several provisions, as summarized below.

Subpart F (Procedural Requirements) specifies definitions of key terms, stipulations and format for plan submission, requirements for public hearings, and conditions for plan revisions and federal approval.

Subpart G (Control Strategy) specifies the description of emissions reductions estimates sufficient to attain and maintain the standards, the description of control measures and schedules for implementation, time periods for demonstrations of the control strategy's adequacy, an emissions inventory, an air quality data summary, data availability, special requirements for lead emissions, and intermittent control systems.

Section 51.118 of Subpart G sets out stack height requirements. Section 51.118 requires that the plan submitted by the state must provide that "the degree of emission limitation required of any source for control of any air pollutant must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique." Facilities with stacks in existence after December 31, 1970 must follow good engineering practice.

Subpart I (Review of New Sources and Modifications) specifies legally enforceable procedures, public availability of information on sources, identification of responsible agency, administrative procedures, stack height procedures, permit requirements, and requirements for prevention of significant deterioration of air quality.

Subpart K (Source Surveillance) specifies procedures for emissions reports and record-keeping, procedures for testing, inspection, enforcement, and complaints, transportation control measures, and procedures for continuous emissions monitoring.

Subpart L (Legal Authority) specifies the requirements for legal authority to implement plans and assignment of legal authority to local agencies.

Section 51.230 of Subpart L specifies that each state implementation plan must show that the state has the legal authority to carry out the plan, including the authority to perform the following actions:

- (1) adopt emission standards and limitations and any other measures necessary for the attainment and maintenance of the national ambient air quality standards;
- (2) enforce applicable laws, regulations, and standards, and seek injunctive relief;
- (3) obtain information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, including authority to require recordkeeping and to make inspections and conduct tests of air pollution sources;

(4) require owners or operators of stationary sources to install, maintain, and use emission monitoring devices and to make periodic reports to the state on the nature and amounts of emissions from such stationary sources; and

(5) make emissions data available to the public as reported and as correlated with any applicable emission standards or limitations.

Section 51.231 of Subpart L requires the identification of legal authority as follows:

(1) the provisions of law or regulation which the state determines provide the authorities required under § 51.231 must be specifically identified, and copies of such laws or regulations must be submitted with the plan; and

(2) the plan must show that the legal authorities specified in Subpart L are available to the state at the time of submission of the plan.

Subpart N (Compliance Schedules) specifies legally enforceable compliance schedules, final compliance schedule dates, and conditions for extensions beyond one year.

Appendix M (Recommended Test Methods for State Implementation Plans) provides recommended test methods for measuring air pollutants which a state may choose to meet the requirements of Subpart K. The state may also choose to meet the requirements of Subpart K through any of the relevant methods in Appendix A to 40 CFR Part 60 or any other method that could be approved and adopted into the state implementation plan.

Appendix P (Minimum Emission Monitoring Requirements) specifies the minimum requirements for continuous emission monitoring and recording.

Chapter 60 (Hazardous Air Pollutant Sources)

Hazardous air pollutants (HAPs) are pollutants for which no ambient air quality standard is applicable, yet pose the risk of serious health problems. EPA's program for dealing with HAPs was first established in Section 112 of the Clean Air Act Amendments of 1977. This section requires that EPA develop and maintain a list of hazardous air pollutants (HAPs), and develop national emission standards (NESHAPs) for these pollutants.

Section 112(b)(1)(A) requires EPA to develop the list of HAPs; under § 112(b)(1)(B), emission standards for each HAP on the list must be established. States may be delegated the authority to implement and enforce the NESHAPs; § 112(d)(1) states, "Each State may develop and submit to [EPA] a procedure for implementing and enforcing emission standards for [HAPs] for stationary sources located in such State. If [EPA] finds the State procedure is adequate, [it] shall delegate to such State any authority . . . to implement and enforce such standards."

The National Emission Standards for Hazardous Air Pollutants are found in 40 CFR 61. Thus far, over 20 NESHAPs have been established, as well as related test methods and quality assurance procedures. Additionally, the General Provisions include lists of pollutants and applicability; determination, application, and approval of construction or modification; source reporting; compliance with standards and maintenance

requirements; emission tests; monitoring requirements; and state authority.

The identification and description of (i) the source(s) of the state legal authority to promulgate the contemplated regulation, (ii) the scope of the authority provided, and (iii) the extent to which the authorized rulemaking is mandatory or discretionary may be found below. A copy of all cited legal provisions is attached or may be found at the internet sites listed below.

Code of Virginia:

<http://leg1.state.va.us/000/cod/codec.htm>

Virginia Administrative Code (VAC):

<http://leg1.state.va.us/000/reg/toc.htm>

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that the State Air Pollution Control Board possesses the statutory authority to promulgate the proposed regulation amendments and that the proposed regulation amendments comport with the applicable state and/or federal law is available upon request.

COMPARISON WITH LEGAL REQUIREMENTS

The proposed regulation amendments are not more restrictive than the applicable legal requirements.

DESCRIPTION OF CHANGES

Any changes, other than strictly editorial changes, that the proposed regulation will implement are detailed above under "substance" in the STATEMENT OF PURPOSE, SUBSTANCE, ISSUES, BASIS AND IMPACT. The changes are accompanied with citations to the appropriate sections of the regulation, including cross-referenced citations when the proposed regulation is intended to replace an existing regulation.

STATEMENT OF CONCLUSIONS AND NEED

The proposed regulation is essential (i) to protect the health, safety or welfare of citizens or (ii) for the efficient and economical performance of an important governmental function. The reasoning for this conclusion, along with a discussion of the problems the regulation's provisions are intended to solve, is set forth below.

The agency performed an analysis to determine if statutory mandates justify continuation of the regulation. The analysis revealed that statutory justification does exist for the regulation. The regulation was adopted in order to implement the policy set forth in the Virginia Air Pollution Control Law and to fulfill the Commonwealth's responsibilities under the Federal Clean Air Act to provide a legally enforceable State Implementation Plan for the control of criteria pollutants. These statutes still remain in force with the provisions that initiated adoption of the regulation still intact.

Analysis reveals that the regulation is not consistent with applicable state and federal regulations, statutory provisions, and judicial decisions. Factors and circumstances (federal statutes, original intent, state air quality program and air pollution control methodology and technology) which justified the initial issuance of the regulation have changed to a degree that would justify a change to the basic requirements of the regulation, as explained below.

Chapter 20, Part II (Air Quality Programs)

A public comment period was conducted on this part pursuant to the review of existing regulations mandated by Executive Order 15(94). In response to those comments, it was determined that the following changes were needed:

9 VAC 5-20-180 B 4--Change "or" to "and." This change will benefit the general public by requiring sources to address both the equipment's return to full function as well as the minimizing of emissions during the down time. It will constitute a minimal increase in the workloads of the regulated community and the agency.

9 VAC 5-20-180 C--Change time limit from four hours to six. Insert "after the malfunction is discovered" following "daytime business hours." Insert "facility or control" before "equipment is again in operation." This change will benefit the regulated community by clarifying and extending the time requirement. It will have a minimal effect on the general public and the agency.

9 VAC 5-20-180 D--Change "within 30 days of" to "as expeditiously as possible but no later than 30 days after." This change will benefit the general public by encouraging the regulated community to act as quickly as possible. It will have a minimal effect on the regulated community and the agency.

9 VAC 5-20-180 G--Change "expedient" to "expeditious." This change will have no impact on the regulated community, the general public, or the agency.

Chapter 40 (Existing Sources)

Federal guidance on states' approaches to air pollution control has varied considerably over the years, ranging from very general in the early years of the Clean Air Act to very specific in more recent years. 9 VAC 5 Chapter 40, Part I, Special Provisions for Existing Sources, was adopted in 1975, when little detailed guidance existed. Therefore, the legally binding federal mandate for this regulation is general, not specific, consisting of the Clean Air Act's broad-based directive to states to meet the air quality standards.

The current regulatory requirements of 9 VAC 5 Chapter 40, Part I, Special Provisions, for Existing Sources, including 9 VAC 5-40-41 and 9 VAC 5-40-21 (formerly 9 VAC 5-10-20, Appendices J and N) were reviewed against the current requirements of 40 CFR Part 51, and Appendix M and Appendix P to 40 CFR Part 51. 9 VAC 5-20-121 (formerly Appendix S) relates specifically to VOC sources and was evaluated with pertinent regulations. In some cases, 40 CFR Part 51 suggested or required the use of regulatory provisions of 40 CFR Part 60. In these cases, the requirements of 40 CFR Part 60 were reviewed against 9 VAC 5 Chapter 40, Part I, Special Provisions, including 9 VAC 5-40-41 (formerly 9 VAC 5-10-20, Appendix J). In addition, the current regulatory requirements of 9 VAC 5-40-20 I concerning stack height were reviewed against the current requirements of 40 CFR 51.118.

In this review, three areas in the existing regulatory requirements were found to not meet the specific minimum requirements of a legally binding federal mandate. Each of these three areas is specified below along with an explanation of the differences between the federal mandate and the regulation. In each case, a provision of the regulation that does not meet the specific minimum requirements of a legally binding federal mandate has been identified and is explained in paragraph 1. Paragraph 2 follows with an explanation of the need for the identified provision.

9 VAC 5-40-41 (formerly 9 VAC 5-10-20, Appendix J) - Frequency of Sampling, Analyzing and Data Recording

1. The identified provision is cited below, followed by an explanation of the requirements of the federal mandate and a detailed analysis of why and to what extent the provision exceeds the mandate.
 - a. 9 VAC 5-40-41 B 3 a requires that "[a]ll continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 15-second period and one cycle of data recording for each successive six-minute period."
 - b. Appendix P of 40 CFR Part 51, § 3.4.1 requires that "[c]ontinuous monitoring systems for measuring opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 10-second period."
 - c. The federal provision requires a minimum cycle of operation, including sampling, analyzing and data recording, for each successive 10-second period. The state provision requires one cycle of sampling and analyzing for each successive 15-second period, which is less stringent than the federal requirement. In addition, the state provision requires one cycle of data recording for each successive six-minute period, which is less stringent than the federal requirement of 10 seconds.

The state provisions are based on the sampling, analyzing and data recording procedures in Appendix A, Method 9 of 40 CFR Part 60 which covers visual determination of opacity of emissions from stationary sources. Method 9 requires that 24 consecutive observations should be recorded at 15 second intervals. Therefore, data sampling and analyzing occurs every 15 seconds and data recording occurs over a period of six minutes.

Since the development of the state provision, a federal performance specification which covers opacity continuous emission monitoring systems has been promulgated (Appendix B, Performance Specification 1 of 40 CFR Part 60). When owners must add these systems to their facilities, Appendix B, Performance Specification 1 tells them the specifications that must be met by the system purchased. The performance specification requires a 10-second data response time. Therefore, data must be sampled, analyzed and any change recorded within 10 seconds. This method more adequately meets the general requirements of the federal mandate.

2. The regulation is essential for the efficient and economical performance of an important governmental function. The reasoning for this conclusion is set forth below.

The current regulation, while it does not meet the federal mandate in 40 CFR Part 51, is adopted into the State Implementation Plan and, therefore, supplants the federal mandate. The current regulation corresponds with the most common method of determining opacity, the visual method in 40 CFR Part 60, Appendix A, Method 9.

9 VAC 5-40-41 (formerly 9 VAC 5-10-20, Appendix J) - Required Data Needed to Calculate Averages

1. The identified provision is cited below, followed by an explanation of the requirements of the federal mandate and a detailed analysis of why and to what extent the provision exceeds the mandate.

- a. 9 VAC 5-40-41 B 6 the following:

Owners of all continuous monitoring systems for measurement of opacity shall reduce all data to six-minute averages for six-minute periods and for systems other than opacity to one-hour averages for one-hour periods. Six-minute opacity averages shall be calculated from 24 or more data points spaced at approximately equal intervals over each six-minute period. . . .

- b. 40 CFR § 60.13(h) requires the following:

Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in § 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. . . .

- c. The federal provision requires that "six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period." The state provision requires that "six-minute opacity averages shall be calculated from 24 or more data points spaced at approximately equal intervals over each six-minute period" which is less stringent than federally required.

The state provision is based on the data recording procedures in Appendix A, Method 9 of 40 CFR Part 60 which covers visual determination of opacity of emissions from stationary sources. Method 9 requires that a minimum of 24 consecutive observations should be recorded at 15 second intervals.

However, the federal mandate is for opacity continuous emissions monitoring systems and not for visual determination of opacity. As noted earlier, owners who must add opacity continuous emissions monitoring systems to their facilities must buy systems that meet the performance specifications in 40 CFR Part 60, Performance Specification 1 and they must also meet the requirements of 40 CFR § 60.13.

2. The regulation is essential for the efficient and economical performance of an important governmental function. The reasoning for this conclusion is set forth below.

The current regulation, while it does not meet the federal mandate in 40 CFR Part 51, is adopted into the State Implementation Plan and, therefore, supplants the federal mandate. The current regulation corresponds with the most common method of determining opacity, the visual method in 40 CFR Part 60, Appendix A, Method 9.

Emission Testing Requirements of 9 VAC 5-40-30

1. The identified provision is cited below, followed by an explanation of the requirements of the federal mandate and a detailed analysis of why and to what extent the provision exceeds the mandate.
 - a. 9 VAC 5-40-30 A specifies that emission tests are to be conducted and reported and data are to be reduced according to the regulation and the appropriate reference methods. Reference methods are defined for 9 VAC 5 Chapters 40, 50 and 60 in 9 VAC 5 Chapter 10. The definition indicates that the appropriate test methods are those in Appendix A to 40 CFR Part 60. In addition, where no appropriate reference method exists, Subsection A indicates that an equivalent or alternative method should be used.
 - b. Section 51.212 (c) requires enforceable test methods for each emission limit specified in the plan. States may use the methods in Appendix M to 40 CFR Part 51 or the methods in Appendix A to 40 CFR Part 60 or EPA-approved alternative methods.
 - c. Appendix M test methods are fairly new and, at present, pertain only to PM₁₀. While the federal mandate allows several options, only Appendix M contains methods for PM₁₀. The omission of Appendix M makes the regulation less stringent than federally required. In addition, 9 VAC 5-40-30 A allows an equivalent or alternative method to be used when no appropriate reference method exists. The federal mandate requires that EPA approve an equivalent or alternative method. Therefore, the regulation is less stringent than federally required.

The state provisions do not include the Appendix M test methods because they were promulgated subsequent to the present state regulation becoming effective.

2. The regulation is essential for the efficient and economical performance of an important governmental function. The reasoning for this conclusion is set forth below.

The current regulation only partially meets the federal mandate in 40 CFR Part 51. By including Appendix M test methods as well as those in 40 CFR Part 60, Appendix A, the regulation will meet the federal mandate and will provide a more accurate requirement.

Chapter 50 (New and Modified Sources)

The current regulatory requirements of 9 VAC 5 Chapter 50, Part I, Special Provisions for New and Modified Sources were reviewed against the current requirements of 40 CFR Part 51, and Appendix M and Appendix P to 40 CFR Part 51. 9 VAC 5-20-121 (formerly Appendix S) relates specifically to VOC sources and was evaluated with pertinent regulations. In some cases, 40 CFR Part 51 suggested or required the use of regulatory provisions of 40 CFR Part 60. In these cases, the requirements of 40 CFR Part 60 were reviewed against 9 VAC 5 Chapter 50, Part I, Special Provisions. In addition, the current regulatory requirements of 9 VAC 5-50-20 H concerning stack height were reviewed against the current requirements of 40 CFR § 51.118 and 40 CFR § 51.164.

Some provisions of the regulation exceed the specific minimum requirements of a legally binding state or federal mandate; these have been identified and are explained in paragraph 1. Paragraph 2 follows with an explanation of the need for the identified provisions.

Emission Testing Requirements of 9 VAC 5-50-30

1. The identified provision is cited below, followed by an explanation of the requirements of the federal mandate and a detailed analysis of why and to what extent the provision exceeds the mandate.
 - a. 9 VAC 5-50-30 A specifies that emission tests are to be conducted and reported and data are to be reduced according to the regulation and the appropriate reference methods. Reference methods are defined for 9 VAC 5 Chapters 40, 50 and 60 in 9 VAC 5 Chapter 10. The definition indicates that the appropriate test methods are those in Appendix A to 40 CFR Part 60. In addition, where no appropriate reference method exists, Subsection A indicates that an equivalent or alternative method should be used.
 - b. Section 51.212 (c) requires enforceable test methods for each emission limit specified in the plan. States may use the methods in Appendix M to 40 CFR Part 51 or the methods in Appendix A to 40 CFR Part 60 or EPA-approved alternative methods.
 - c. Appendix M test methods are fairly new and, at present, pertain only to PM₁₀. While the federal mandate allows several options, only Appendix M contains methods for PM₁₀. The omission of Appendix M makes the regulation less stringent than federally required. In addition, 9 VAC 5-50-30 A allows an equivalent or alternative method to be used when no appropriate reference method exists. The federal mandate requires that EPA approve an equivalent or alternative method. Therefore, the regulation is less stringent than federally required.

The state provisions do not include the Appendix M test methods because they were promulgated subsequent to the present state regulation becoming effective.

2. The regulation is essential for the efficient and economical performance of an important governmental function. The reasoning for this conclusion is set forth below.

The current regulation only partially meets the federal mandate in 40 CFR Part 51. By including Appendix M test methods as well as those in 40 CFR Part 60, Appendix A, the regulation will meet the federal mandate and will provide a more accurate requirement.

Chapter 60 (Hazardous Air Pollutant Sources)

The current regulatory requirements of 9 VAC 5 Chapter 60, Part I, Special Provisions, Hazardous Air Pollutants were reviewed against the current requirements of 40 CFR Part 61.

Provisions of the regulation that do not meet the specific minimum requirements of a legally binding state or federal mandate have been identified and are explained in paragraph 1. Paragraph 2 follows with an explanation of the need for the identified provisions.

1. The identified provisions are cited below, followed by an explanation of the requirements of the federal mandate and a detailed analysis of why and to what extent the provision does not meet or exceeds the mandate.
 - a. 9 VAC 5-60-20 A 2 and 9 VAC 5-60-30 D refer to visible emissions standards prescribed under 9 VAC 5 Chapter 60.
 - b. Neither § 112 of the CAA nor the General Provisions of 40 CFR Part 61 include provisions covering visible emissions.
 - c. Visible emission standards are not included in 9 VAC 5 Chapter 60 and, therefore, the reference to these standards is inappropriate. Visible emissions are covered elsewhere in the CAA and in the state regulations.
2. The regulation is essential for the efficient and economical performance of an important governmental function. The reasoning for this conclusion is set forth below.

The federal program concerning National Emission Standards for Hazardous Air Pollutants is delegated to the state from the federal government. The regulation sets out general requirements concerning these standards. The regulation is therefore essential to maintain delegation of authority for these standards.

STATEMENT OF ESTIMATED IMPACT

1. Entities Affected

This regulation has the potential to impact the entire population of regulated sources within Virginia which is 2,239 sources. However, major sources (approximately 500 statewide), because of their potential to impact air quality, are inspected more frequently and are more likely to be affected.

The compliance provisions pertain to all regulated sources.

Emissions testing procedures only apply to new sources upon start-up to confirm that they will operate within permit limits or to existing sources only when questions of compliance are raised.

The actual number of sources that conduct emissions testing is unknown; however, it is believed to be relatively small.

Monitoring requirements apply to special categories of sources, not all regulated sources. Specific source categories include, (i) sources that require continuous emissions monitors, (ii) fuel sulfur analysis or (iii) special process parameters. Approximately 150 sources will be affected by the monitoring provisions.

Record keeping provisions are generally contingent upon the monitoring and emissions testing requirements and, therefore, apply to a limited number of sources in any given year.

2. Fiscal Impact

a. Costs to Affected Entities

Owners of most stationary sources are subject to the compliance, emissions testing, monitoring and record keeping provisions. Specific costs for source owners will be dependent upon many factors; how opacity standards are currently being met (some sources may not need to change the procedures, others may need to make adjustments), and whether or not continuous emissions monitors are being used. Similar considerations will be true for emissions testing. However, the changes to the regulations allow for more flexibility regarding alternative equivalent methods to determine compliance and emission testing, for both new and existing sources, when approved by the Administrator.

b. Costs to Localities

The projected cost of the regulation on localities is not expected to be beyond that of other affected entities and are addressed in paragraph 2a above.

c. Costs to Agency

Personnel currently review records to determine compliance and conduct emission testing. No new resources will need to be expended to implement the changes to this regulation. The board already has in place a well-defined compliance testing, monitoring and recording-keeping system into which the requirements of this regulation fit. Therefore, it is not expected that the regulation will result in any cost to the Department of Environmental Quality beyond that currently in the budget.

The sources of Department funds to carry out this regulation are the general fund and the grant money provided by the U.S. Environmental Protection Agency under Section 105 of the federal Clean Air Act.

d. Benefits

The changes to the regulated community include more flexibility in operating their

facilities. Provisions governing compliance with opacity standards have been clarified for new and existing sources. Provisions have been clarified regarding emissions testing for existing sources and performance testing for new sources. This will also result in faster compliance with air quality requirements.

e. Small Business Impact

The impact upon facilities that meet the definition of small business provided in § 9-199 of the Code of Virginia is addressed in paragraph 2a above.

STATEMENT OF PROCESS FOR CONSIDERING ALTERNATIVES

As provided in the public participation procedures of the State Air Pollution Control Board, the Department included, in the Notice of Intended Regulatory Action, a description of the Department's alternatives and a request for comments on other alternatives and the costs and benefits of the Department's alternatives or any other alternatives that the commenters provided.

Following the above, alternatives to the proposed regulation amendments were considered by the Department. The Department determined that the first alternative is appropriate, as it is the least burdensome and least intrusive alternative that fully meets the purpose of the regulation. The alternatives considered by the Department, along with the reasoning by which the Department has rejected any of the alternatives being considered, are discussed below.

1. Amend the regulations to satisfy the provisions of the law and associated regulations and policies. This option was chosen because the regulations should be upgraded to reflect the latest federal regulations.
2. Make alternative regulatory changes to those required by the provisions of the law and associated regulations and policies. This option was not selected because alternatives to the federal requirements may result in failure to gain federal approval of state programs.
3. Take no action to amend the regulations and continue to use test procedures that do not conform to federal requirements. This option was not selected because the regulation would remain out of date and would jeopardize federal acceptance of compliance and enforcement actions.

ASSURANCE OF CLARITY

The agency, through examination of the regulation and relevant public comments, has determined that the regulation is clearly written and easily understandable by the individuals and entities affected.

EVALUATION SCHEDULE AND GOALS

The Department will initiate a review and re-evaluation of the regulation to determine if it should be continued, amended, or terminated within three years after its effective date.

The specific and measurable goals the proposed regulation amendments are intended to achieve are as follows:

1. To protect public health and/or welfare with the least possible cost and intrusiveness to the citizens and businesses of the Commonwealth.
2. To provide the enforcement basis for determining compliance with the emission standards and other applicable requirements.
3. To specify test methods and procedures for determining compliance with the emission standards.
4. To specify procedures for continuous or process parameter monitoring of emissions for determining compliance with the emission standards.
5. To require the owner to provide certain notifications, records and reports in order that the Department may determine compliance with emission standards and other applicable requirements.
6. To prohibit the use of the stack height of the facility or any other dispersion technique as a method to avoid compliance with emission limits.

SUMMARY AND ANALYSIS OF PUBLIC INPUT

The purpose of the intended regulatory action, a summary of the public participation process, and an analysis of the public input, along with the basis for the decision of the Board, are available upon request.

CONTACT PERSON

Questions on the proposal should be referred to:

Mary E. Major
Environmental Program Manager
Office of Air Regulatory Development
Department of Environmental Quality
P. O. Box 10009
Richmond, Virginia 23240
Phone: (804) 698-4423

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